

AP20 Rec'd PCT/PTO 28 JUL 2006

**METHOD FOR ADAPTING THE DETECTION OF A MEASURING SIGNAL OF A
WASTE GAS PROBE.**

CROSS REFERENCE TO RELATED APPLICATIONS

O.K.
to ENTER
11. 31. 2007
Aug.

[0001] This application is the US National Stage of International Application No. PCT/EP2004/053065, filed November 23, 2004 and claims the benefit thereof. The International Application claims the benefits of German Patent application No. 10 2004 004 291.8 filed January 28, 2004. All of the applications are incorporated by reference herein in their entirety.

FIELD OF THE INVENTION

[0002] The invention relates to a method for adapting the detection of a measuring signal of a waste gas probe which is disposed in an internal combustion engine comprising a plurality of cylinders and injection valves associated with the cylinders which supply measured amounts of fuel. The waste gas probe is arranged in a waste gas tract and the measuring signal thereof is characteristic for the air/fuel ratio in the respective cylinder.

BACKGROUND OF THE INVENTION

[0003] Ever more stringent regulations regarding permissible pollutant emissions by motor vehicles fitted with internal combustion engines make it necessary to keep the pollutant emissions as low as possible during operation of the internal combustion engine. One of the ways in which this can be done is by reducing the emissions which occur during the combustion of the air/fuel mixture in the relevant cylinder of the internal combustion engine. Another is to use waste gas handling systems in internal combustion engines which convert the emissions which are generated during the combustion process of the air/fuel mixture in the relevant cylinder into harmless substances. Catalyzers are used for this purpose, which convert carbon monoxide, hydrocarbons and nitrous oxide into harmless substances. Both the explicit influencing of the generation of the pollutant emissions during the combustion and also the conversion of the pollutant components with a high level of efficiency by an exhaust gas catalyzer require a very precisely set air/fuel ratio in the respective cylinder.

[0004] The later published patent application DE 103 04 245 B3 discloses a method for adapting signal sampling of Lambda probe signal values for use in a cylinder-selective Lambda control for a multi-cylinder internal combustion engine. A Lambda probe records the